No. 9800159

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Utah State University

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED, PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE , OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY (1) MAY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE FIELD OF GENERATIONS SPECIFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET

BARLEY

'Statehood'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this fourteenth day of April, in the year of our Lord two thousand.

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

REPRODUCE LOCALLY. *Include form number and date on all reproductions.* FORM APPROVED - OMB NO. 0581-005

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY DIVISION - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protectic certificate is to be issued (7 U.S.C. 2421). Information is held confidenti until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) *(as it is to appear on the Certificate)*
Utah State University

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER
UT87B604-1705-D

3. VARIETY NAME
Statehood

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*
Logan, UT 84322

6. TELEPHONE *(include area code)*
435-797-2243

6. FAX *(include area code)*
435-797-3376

FOR OFFICIAL USE ONLY
PVPO NUMBER 9800159

FILING DATE: 3/12/1998 ✓

7. GENUS AND SPECIES NAME
Hordeum vulgare

8. FAMILY NAME *(Botanical)*
Poaceae (Gramineae)

9. CROP KIND NAME *(Common name)*
Barley

FEES RECEIVED
FILING AND EXAMINATION FEE: $ 2,450.00
DATE: 3/12/1998
CERTIFICATION FEE: $ 300
DATE: 3/17/98

10. IF THE APPLICANT NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION *(corporation, partnership, association, etc.) (Common name)*
State University

11. IF INCORPORATED, GIVE STATE OF INCORPORATION

12. DATE OF INCORPORATION

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS
Dr. Rulon S. Albrechtsen
Plants, Soils, & Biometeorology Dept.
Utah State University
Logan, UT 84322-4820

14. TELEPHONE *(include area code)*
435-797-2243

15. FAX *(include area code)*
435-797-3376

16. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED *(Follow instructions on reverse)*

a. ☒ Exhibit A. Origin and Breeding History of the Variety
b. ☒ Exhibit B. Statement of Distinctness
c. ☒ Exhibit C. Objective Description of the Variety
d. ☒ Exhibit D. Additional Description of the Variety *(Optional)*
e. ☒ Exhibit E. Statement of the Basis of the Applicant's Ownership
f. ☒ Voucher Sample *(2,500 viable untreated seeds or, for tuber propagated varieties verification that tissue culture will be deposited and maintained in an approved public repository)*
g. ☒ Filing and Examination Fee ($2,450), made payable to "Treasurer of the United States" *(Mail to PVPO)*

17. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY, AS A CLASS OF CERTIFIED SEED? *(See Section 83(a) of the Plant Variety Protection Act)*
☒ YES *(If "yes," answer items 18 and 19 below)* ☐ NO *(If "no," go to item 20)*

18. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☒ YES ☐ NO

19. IF "YES" TO ITEM 18, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☒ FOUNDATION ☒ REGISTERED ☒ CERTIFIED

20. HAS THE VARIETY OR A HYBRID PRODUCED FROM THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES?
☒ YES *(If "yes," give names of countries and dates)* ☐ NO
U.S., ~~1997~~ March 1998 AMA per phone conversation w/ representative 20 Jan 2000

21. The applicant(s) declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned applicant(s) is(are) the owner(s) of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Applicant(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT *(Owner(s))*		SIGNATURE OF APPLICANT *(Owner(s))*	
Wayne H. Watkins			
NAME *(Please print or type)*		NAME *(Please print or type)*	
WAYNE H. WATKINS			
CAPACITY OR TITLE	DATE	CAPACITY OR TITLE	DATE
DIRECTOR TECHNOLOGY COMMERCIALIZATION	11 MAR 98		

STD-470 (03-98) *(Previous editions are to be destroyed)* *(See reverse for instructions and information collection burden statement*

Revised Exhibit A - Origin and Breeding History

STATEHOOD

Summer, 1982: Original cross made at Logan, Utah, by Dr. Rulon S. Albrechtsen.

Cross number was UTB604

UTB604 = WA641566/Bracken

WA641566 = WA Sel. 3564/Unitan
WA641566 = a sister selection to Steptoe
Bracken = Woodvale//Primus/S.D. 67-297

Woodvale = a reselection of Vale
Primus = a South Dakota variety
S.D. 67-297 = a South Dakota breeding line

Winter, 1982-83: F_1 plants grown in the greenhouse at Logan, Utah.

There was no segregation observed in F_1 plants.

Summers, 1983, 1984 and 1985: F_2 through F_4 generation plants grown in the field at Logan, Utah in space-planted (plants 6 inches apart with 12-inch row spacing) modified bulk populations which were selected for plants possessing the following characteristics:

- Four or more fertile tillers per plant in space-planted stands
- Early to mid-season heading date
- Early to mid-season maturity date
- Less than 100 cm tall
- Zero to near-zero lodging
- Upright stems
- Desirable plant confirmation
- Plump seeds
- White aleurone
- Complete exertion of spike from flag leaf at maturity
- Tough (not brittle) stem and neck
- Lemma awns longer than spike
- Free of barley loose smut (caused by *Ustilago nuda* (Jens.) Rostr.)
- Free of barley covered smut (caused by *Ustilago hordei* (Pers.) Lagrh.)
- Moderately free of powdery mildew (caused by *Erysphe graminis* DC. f sp. *hordei* Em. marchal)

Selected seed was bulked for each succeeding generation.

Plants were also segregating for rough vs. smooth lemma awns and lax vs. dense heads, but selection for these characters was not practiced at this point in the breeding process.

Summer, 1986: F_5 plants grown at Logan, Utah in a space planted (plants 6 inches apart with 12-inch row spacing) modified bulk population and single heads were selected from 265 plants possessing the same characteristics as those listed for the F_2 through F_4 generations. Seed from individual heads was maintained separately.

Summer, 1987: Seed from the 265 individual selected heads was grown in F_6 head rows at Logan, Utah, where all rows were evaluated for the same characteristics as those listed for the F_2 through F_5 generations. Only desirable rows were harvested. Seed from harvested rows was subjected to protein evaluation and kernel rating in the laboratory. Row 1705 (identified as UT87B604-1705) was selected as a single head row for additional testing. It was found to breed true for rough lemma awns.

Summer, 1988: UT87B604-1705 was evaluated for yield and test weight, in addition to the characters listed for the F_6 head rows, in a single-replicate preliminary irrigated yield test (which included Steptoe check plots) grown at Logan, Utah.

Summers, 1989, 1990 and 1991: UT87B604-1705 was evaluated for the same characters listed for the preliminary irrigated yield test, in replicated irrigated yield tests at four major irrigated barley production sites in Utah.

Summers, 1990 and 1991: UT87B604-1705 was evaluated for the same characters listed for the replicated Utah irrigated yield tests, in the Western Regional Spring Barley Nursery grown at 17 locations throughout the western U.S. in each of the two years (identified as UT 1705). It was the top-yielding entry in the nursery both years (among 30 entries in 1990 and 27 in 1991).

Summer, 1991: UT87B604-1705 was observed to contain two different head types. It was reselected for the two different head types (lax head, identified as UT87B604-1705-L; and dense head, identified as UT87B604-1705-D). Two hundred heads of each type were selected from the original line in the F_{11} generation. Statehood was identified as UT87B604-1705-D.

Winter, 1991 and 1992: Plants from reselected dense heads (identified as UT87B604-1705-D) were grown as head rows in greenhouse benches. Any questionable rows were

Revised Exhibit B - Statement of Distinctness of Statehood

To our knowledge, **Statehood** most nearly resembles Rollo and Bracken barleys. Differences between Statehood and the other two varieties include, but are not restricted to, the following characteristics:

1. Head shape of Statehood is distinctly tapering, while that of Rollo is strap and that of Bracken is slightly tapering (Figures 1 & 2).

2. Head density of Statehood (1.8 - 2.0 mm/internode) is more dense than that of Rollo (2.0 - 2.2 mm/internode), Bracken (1.9 - 2.1 mm/internode), or Steptoe (3.2 - 3.5 mm/internode) Figures 2 & 3).

3. Rachis edges of Statehood are covered with hair, but the hairs are distinctly shorter than are those on Steptoe and are more numerous than those on Rollo.

4. Glume hairs on Statehood are short (similar to those on Century and Walker), in contrast to the long hairs on Steptoe (Figures 4 & 5).

5. Glume hair covering of Statehood is restricted to the middle of the glume (similar to that of Rollo), in contrast to very sparse hair confined to a band as in Bracken, being completely covered with short hair as in Walker, or completely covered with long hair as in Steptoe (Figures 4 & 5).

6. Glume awns on Statehood are more than the length of the glume (similar to Rollo), in contrast to being equal to the length of the glume as in Bracken.

7. The glume awns on Statehood are semi-smooth (similar to Century and Rollo), in contrast to the smooth glume awns of Bracken and the rough ones of Steptoe and Walker.

8. The lemma awn surface of Statehood is rough (comparable to Steptoe and Century), in contrast to Rollo and Bracken, which are semi-smooth and smooth, respectively, and in contrast to Walker, which should be rated as very rough.

9. Rachilla hairs for Statehood (similar to Century) are more numerous than on Rollo and Bracken.

10. Statehood has more numerous stigma hairs (similar to Steptoe and Century) than do Rollo and Bracken, but not as numerous as Walker.

rogued from the population. Remaining rows were harvested in bulk to increase seed of the reselected (dense) head type.

Summer, 1992 through 1997: UT87B604-1705-D (dense headed reselection) was evaluated for the same characters listed for the 1988 preliminary irrigated yield test, in replicated irrigated yield tests at four major irrigated barley production sites in Utah.

Summer, 1993, 1994 and 1995: UT87B604-1705-D was evaluated for the same characters listed for the replicated Utah irrigated yield tests, in the Western Regional Spring Barley Nursery grown at 15 locations in 1993 and 1994, and at 12 locations in 1995 (a total of 42 location years), where it was identified as UT 1705D. It ranked 4th in yield in 1993 (among 27 entries), 1st in 1994 (among 32 entries), and 3rd in 1995 (among 32 entries).

Summer, 1994: Selected 250 heads of UT87B607-1705-D to be used for production of Breeder seed.

Winter, 1994 and 1995: Breeder seed of UT87B604-1705-D was produced in a winter increase at Yuma, Arizona, from the 250 heads selected in 1994. Selected heads were grown in individual head rows. Questionable rows were rogued out. Remaining rows were harvested in bulk.

Summer, 1995, 1996 and 1997: UT87B604-1705-D was evaluated for the characters listed for the replicated Utah irrigated yield tests, in replicated non-irrigated yield tests at major dryland production sites (1 site in 1995; 2 sites in 1996 and 1997) in Utah.

Summer, 1995: Foundation seed of UT87B604-1705-D was produced at Logan, Utah from Breeder seed produced at Yuma, Arizona. The Foundation field was rogued heavily for any questionable plants.

Summer, 1996: Registered seed of Statehood (UT87B604-1705-D) was produced by four selected Utah growers.

Summer, 1997: Certified seed of Statehood was produced by selected growers.

March, 1998: Certified seed of Statehood was marketed for commercial production.

Statehood has been observed to be uniform and stable for seven generations (following reselection, from the F_{11} generation in 1991 through the F_{18} generation of certified seed produced in 1997. Any questionable plants rogued from Breeder and Foundation plantings showed very minor differences and were likely due to micro-environmental variations. They were removed strictly as a precautionary measure. No variants present.

per phone call of 2-17-2000 MAH

FORM APPROVED: OMB NO. 40-R3822

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Barley)

OBJECTIVE DESCRIPTION OF VARIETY
BARLEY *(HORDEUM VULGARE)*

INSTRUCTIONS: *See Reverse.*

NAME OF APPLICANT(S)
Utah State University

ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)*
Logan, UT 84322

FOR OFFICIAL USE ONLY
PVPO NUMBER 9600159

VARIETY NAME OR TEMPORARY DESIGNATION Statehood

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (i.e. [0][8][9] or [0][9]) when number is either 99 or less or 9 or less.

1. GROWTH HABIT:

[1] 1 = SPRING 2 = FACULTATIVE WINTER 3 = WINTER [3] Early Growth: 1 = PROSTRATE 2 = SEMIPROSTRATE 3 = ERECT

2. MATURITY (50% Flowering):

[2] 1 = EARLY (California Mariout) 2 = MIDSEASON (Betzes) 3 = LATE (Frontier) (Steptoe)

No comparison to listed varieties.
Steptoe used as a comparative variety.

See letter 2-1-2000 ~~See~~ ~~Tables 2a & 2b~~

[ ] No. of days *Earlier* than ..... [ ]
[0-1] No. of days *Later* than ..... [8]
1 = BETZES 2 = CALIFORNIA MARIOUT 3 = CONQUEST 4 = DICKSON 5 = PIROLINE 6 = PRIMUS 7 = UNITAN 8 = Steptoe

3. PLANT HEIGHT (From soil level to top of head): (Steptoe)

[3] 1 = SEMIDWARF 2 = SHORT (California Mariout) 3 = MEDIUM TALL (Betzes) 4 = TALL (Conquest)

No comparison to listed varieties.
Steptoe used as a comparative variety.

~~See Tables 3a & 3b~~

[02] - 03 Cm. *Shorter* than ..... [8]
[ ] Cm. *Taller* than ..... [ ]
1 = BETZES 2 = CALIFORNIA MARIOUT 3 = CONQUEST 4 = DICKSON 5 = PIROLINE 6 = PRIMUS 7 = UNITAN 8 = Steptoe

4. STEM:

[1] Exertion *(Flag to spike at maturity):* 1 = 0 - 3 cm. 2 = 3 - 10 cm. 3 = 10 - 15 cm.
[1] Anthocyanin: 1 = ABSENT 2 = PRESENT

[04] NO. OF NODES (Originating from node above ground)

Primarily [1] Collar Shape: some shallow v 1 = CLOSED 2 = V-SHAPED 3 = OPEN 4 = MODIFIED CLOSED OR OPEN
[3] Shape of Neck: 1 = STRAIGHT 2 = SNAKY 3 = OTHER (Specify) semi-snaky

5. LEAF:

[1] Basal leaf sheath *(seedling):* 1 = GLABROUS 2 = PUBESCENT
[2] Position of flag leaf *(at boot stage):* 1 = DROOPING 2 = UPRIGHT

~~See Tables 1d, 2d & 3d~~

[3] Waxiness: 1 = ABSENT (Glossy) 2 = SLIGHTLY WAXY 3 = WAXY
[20] MM. WIDTH (First leaf below flag leaf) ~~See Table 2d.~~ ~~See Table 3d.~~ Leaf W/L Ratio = 0.796
[25] CM. LENGTH (First leaf below flag leaf)
[1] Anthocyanin in leaf sheath: 1 = ABSENT 2 = PRESENT

6. HEAD: Basal rachis internode short and straight.

[2] Type: 1 = TWO-ROWED 2 = SIX-ROWED
[3] Density: 1 = LAX 2 = ERECT (Not dense) 3 = ERECT (Dense) 1.8-2.0 mm/internode vs. 3.2-3.5 for Steptoe

See Figs. 1&2 [1] Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE 4 = OTHER (Specify) see Figs. 2 & 3
[3] Waxiness: 1 = ABSENT (Glossy) 2 = SLIGHTLY WAXY 3 = WAXY

See Fig. 2 [1] Lateral Kernels Overlap: 1 = NONE 2 = AT TIP 3 = 1/4 - 1/2 OF HEAD
[3] Rachis *(Hair on edge):* 1 = LACKING 2 = FEW 3 = COVERED Distinctly shorter than Steptoe (Short)

7. GLUME:

[3] Length: 1 = 1/3 OF LEMMA 2 = 1/2 OF LEMMA 3 = MORE THAN 1/2 OF LEMMA
[2] Hairs: 1 = NONE 2 = SHORT 3 = LONG

See Figs. 4&5 [2] Hair covering: 1 = NONE 2 = RESTRICTED TO MIDDLE 3 = CONFINED TO BAND 4 = COMPLETELY COVERED

[3] Awns: 1 = LESS THAN EQUAL TO LENGTH OF GLUMES 2 = EQUAL TO LENGTH OF GLUMES 3 = MORE THAN EQUAL TO LENGTH OF GLUMES

[2] Awn Surface: 1 = SMOOTH 2 = SEMISMOOTH 3 = ROUGH

8. LEMMA:

[5] Awn: 1 = AWNLESS 2 = AWNLETS ON CENTRAL ROWS, AWNLESS ON LATERAL ROWS 3 = SHORT ON CENTRAL ROWS, AWNLETS ON LATERAL ROWS 4 = SHORT (less than equal to length of spike) 5 = LONG (longer than spike) 6 = HOODED

[4] Awn Surface: 1 = AWNLESS 2 = SMOOTH 3 = SEMISMOOTH 4 = ROUGH Less than Walker. Similar to Steptoe and Century.

[1] Teeth: 1 = ABSENT 2 = FEW 3 = NUMEROUS

[1] Hair: 1 = ABSENT 2 = PRESENT

[3] Shape of base: 1 = DEPRESSION 2 = SLIGHT CREASE 3 = TRANSVERSE CREASE

[2] Rachilla Hairs: 1 = SHORT 2 = LONG More numerous than Steptoe. (numerous)

9. STIGMA:

[2] Hairs: 1 = FEW 2 = MANY (Similar to Steptoe, less than Walker)

10. SEED:

[2] Type: 1 = NAKED 2 = COVERED

[1] Hairs on Ventral Furrow: 1 = ABSENT 2 = PRESENT

[4] Length: 1 = SHORT (8.0 mm.) 2 = SHORT TO MIDLONG (7.5 - 9.0 mm.) 3 = MIDLONG (8.5 - 9.5 mm.) 4 = MIDLONG TO LONG (9.0 - 10.5 mm.) 5 = LONG (10.0 mm.)

[3] Wrinkling of hull: 1 = NAKED 2 = SLIGHTLY WRINKLED 3 = SEMIWRINKLED 4 = WRINKLED

[1] Aleurone Color: 1 = COLORLESS (White or Yellow) 2 = BLUE

[0][2] PERCENT ABORTIVE

[4][3] GMS. PER 1000 SEEDS ~~(See Table 1e)~~

11. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant) 3 = Moderately Resistant

[0] SEPTORIA	[0] NET BLOTCH	[0] SPOT BLOTCH	[3] POWDERY MILDEW ~~see Table 8a.~~
[2] LOOSE SMUT	[3] BACTERIAL BLIGHT	[2] COVERED SMUT	[0] FALSE LOOSE SMUT
[0] STEM RUST	[0] LEAF RUST	[0] SCAB	[0] SCALD
[0] AY	[2] BSMV	[0] BYDV	[ ] OTHER (Specify)

12. INSECT: (0 = Not tested, 1 = Susceptible, 2 = Resistant)

[0] GREEN BUG	[0] ENGLISH GRAIN APHID	[0] CHINCH BUG	[0] ARMYWORM
[1] GRASS HOPPERS	[1] CEREAL LEAF BEETLE	[1] OTHER (Specify) Russian wheat aphid	

HESSIAN FLY RACES: [0] GP [0] A [0] B [0] C [0] D [0] E [0] F [0] G

13. CHEMICAL (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

[0] DDT [ ] OTHER (Specify) _____

14. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	Rollo	Seed size	Bracken
Leaf size	Bracken	Coleoptile elongation	Walker
Leaf color	Walker	Seedling pigmentation	Walker
Leaf carriage	Walker		

REFERENCES: The following publications may be used as a reference aid for the standardization of character descriptions and terms used in this form:

1. Wiebe, G. A., and D. A. Reid, 1961, Classification of Barley Varieties Grown in the United States and Canada in 1958, Technical Bulletin No. 1224, U.S. Dept. of Agriculture.
2. Reid, D. A., and G. A. Wiebe, 1968, Barley: Origin, Botany, Culture, Winter Hardiness, Genetics, Utilization, Pests, Agriculture Handbook No. 338, U.S. Dept. of Agriculture. pp. 61 - 84.
3. Malting Barley Improvement ~~Association, Milwaukee, Wisconsin~~, 1971, Barley Variety Dictionary.

COLOR: Nickerson's or any recognized color fan may be used to determine color of the described variety.

Revised Exhibit D - Additional Distinctness of Statehood

Statehood resembles Century in some respects. Differences between Statehood and Century include, but are not restricted to, the following characteristics:

1. Head shape of Statehood is tapering, while that of Century is strap (Figures 1 & 2).

2. Statehood has a dense head (1.8 - 2.0 mm/internode), in contrast to the lax head (3.0 - 3.2 mm/internode) of Century (Figures 2 & 3).

3. Glume hair covering of Statehood is restricted to the middle of the glume, while that of Century is confined to a band (Figures 4 & 5).

4. Glume awns on Statehood are longer than the length of the glume, in contrast to being approximately equal to the length of the glume on Century.

Fig. 1. General head and awn characteristics of Statehood and comparative barley varieties.

Fig. 2. Comparisons of head density, head shape and lateral kernel overlap for Statehood and comparative barley varieties.

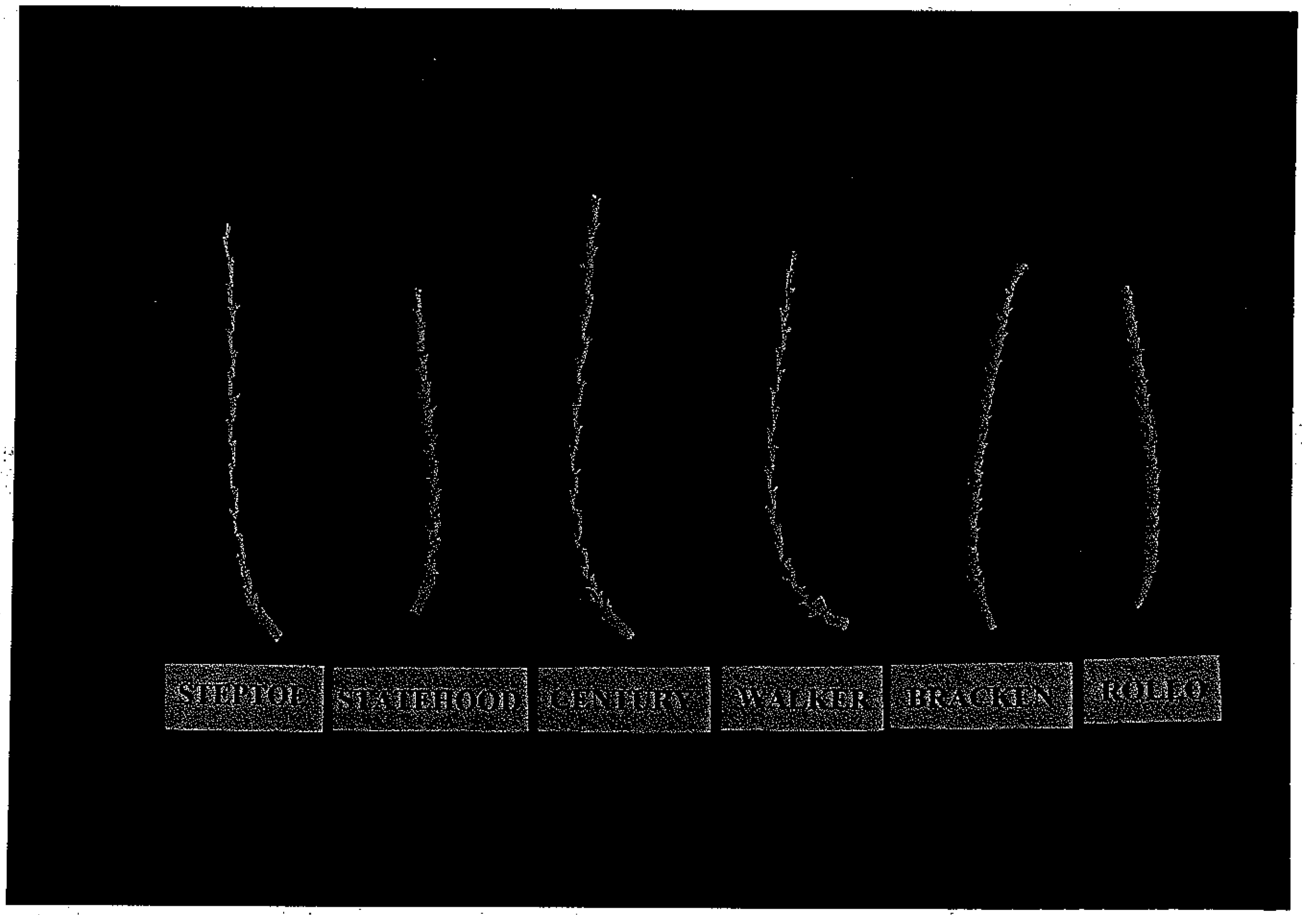
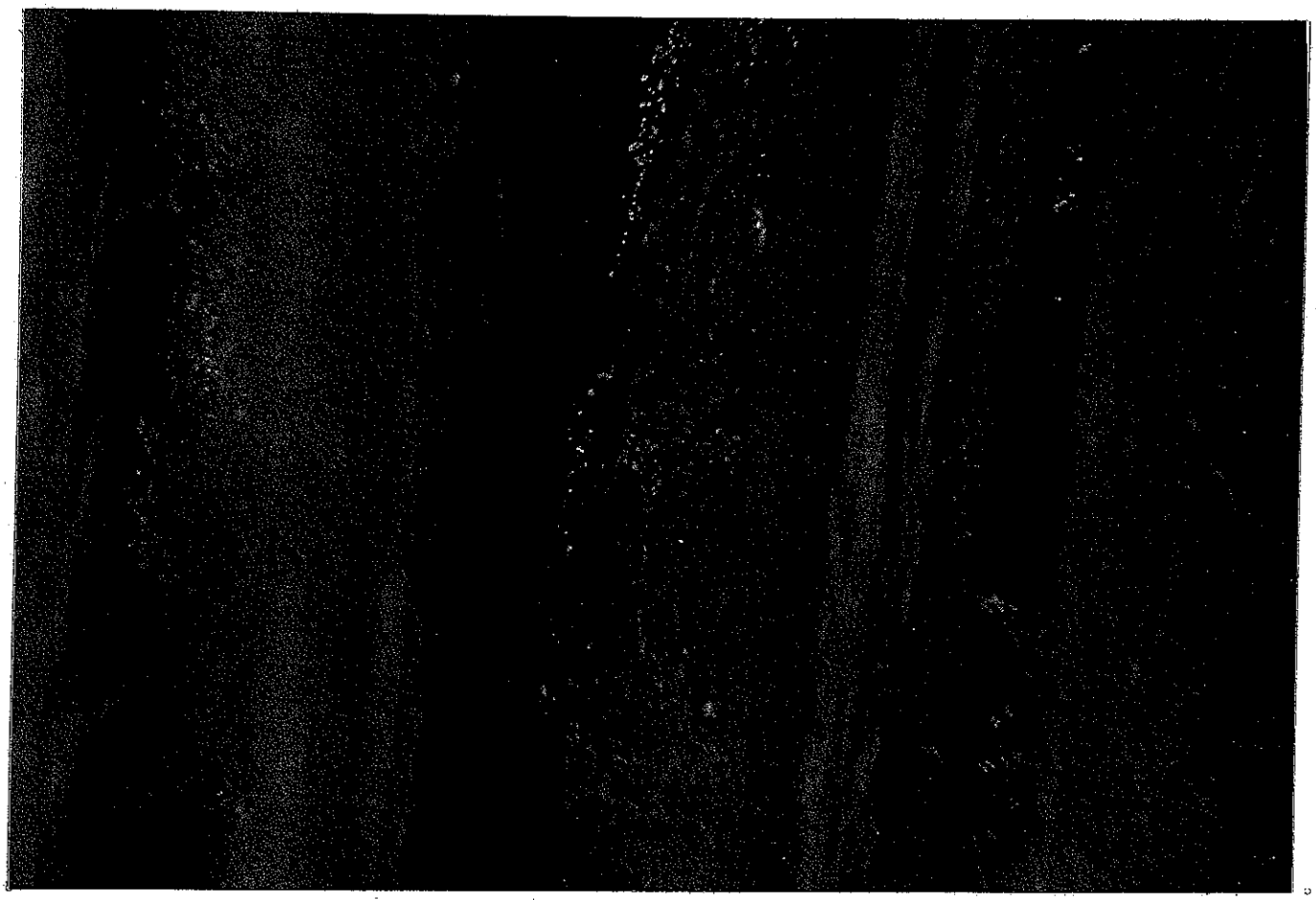


Fig. 3. Comparisons of head density for Statehood and comparative barley varieties.

STEPTOE STATEHOOD CENTURY WALKER

Fig. 4. Comparisons of glume hair covering and distribution for Statehood and comparative barley varieties.



STEPTOE STATEHOOD CENTURY WALKER

Fig. 5. Comparisons of glume hair covering and distribution for Statehood and comparative barley varieties.

REPRODUCE LOCALLY. *Include form number and edition date on all reproductions.* FORM APPROVED - OMB NO. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME
Utah State University	UT87B604-1705-D	Statehood
4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP, and Country)*	**5. TELEPHONE** *(include area code)*	**6. FAX** *(include area code)*
Logan, UT 84322	435-797-2243	435-797-3376
	7. PVPO NUMBER 9800159	

8. Does the applicant own all rights to the variety? *Mark an "X" in appropriate block.* If no, please explain. [X] YES [ ] NO

9. Is the applicant (individual or company) a U.S. national or U.S. based company? [X] YES [ ] NO
If no, give name of country

10. Is the applicant the original owner? [X] YES [ ] NO *If no, please answer one of the following:*

a. If original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. national(s)?

[ ] YES [ ] NO **If no, give name of country**

b. If original rights to variety were owned by a company(ies), is(are) the original owner(s) a U.S. based company?

[ ] YES [ ] NO **If no, give name of country**

11. Additional explanation on ownership *(if needed, use reverse for extra space)*:

Statehood (UT87B604-1705-D) was originated and developed by Dr. Rulon S. Albrechtsen, plant breeder at the Utah Agricultural Experiment Station at Utah State University, Logan, Utah. By agreement between employee and the Utah Agricultural Experiment Station and Utah State University, all rights to any invention, discovery or development made by an employee are assigned to the employer. No rights to such invention, discovery, or development are retained by the employee.

PLEASE NOTE:

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.

2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.

3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to compete this information collection is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C. 20250, or call 1-800-245-6340 (voice) or (202) 720-1127 (TDD). USDA is an equal employment opportunity employer.

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